



# EXPANSION JOINT 2-3/8"

Manual No:  
**DL-534-2375-1579**

Revision: **A**

Revision Date:  
**06/08/2022**

Authored by: *J.Anderson*

Approved by: *J.Johnson*

## A) DESCRIPTION

The Expansion Joint is used to allow expansion and contraction during injection or production operations. They are also used between packers to allow stroke for setting and releasing packers and provides for rotation through the tool. Available with optional seals for low to high temperatures and in lengths up to twenty (20) feet.

## B) SPECIFICATION GUIDE

TUBING SIZE (INCHES)	TOOL OD (INCHES)	TOOL ID (INCHES)	TOOL LENGTH (INCHES)		THREAD CONNECTION BOX UP / PIN DOWN	PART NUMBER
			COLLAPSED	EXPANDED		
2-3/8	3.25	1.94	64.57	112.57	2-3/8 EUE	53420-48 53420H-48 <sup>1</sup> 53420V-48 <sup>2</sup>

Elastomer Trim Options: <sup>1</sup>HSN, <sup>2</sup>Viton

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
7,000 PSI	47,000 LBS

## C) PRE-INSTALLATION INSPECTION PROCEDURES

**CAUTION<sub>1</sub>:** D&L ships tool connections made-up **HAND TIGHT**—labeled with hand-tight tape on the tool (Fig. 1)—unless stated otherwise. Tighten/torque all connections properly before operating tool.



Fig. 1

GENERAL THREAD CONNECTION TORQUE RECOMMENDATIONS			
STUB ACME / ACME THREADS	INTERNAL TAPERED TUBING THREADS		PREMIUM THREADS
	UP TO 2-3/8"	GREATER THAN 2-3/8"	
600 – 800 FT-LBS	600 – 800 FT-LBS	800 – 1,200 FT-LBS	Consult thread manufacturer's recommendations.

GENERAL SCREW TORQUE RECOMMENDATIONS									
SCREW SIZE (INCHES)	#6	#8	#10	1/4	5/16	3/8	7/16	1/2	5/8 and larger
TORQUE RANGE (INCH-POUNDS)	5 – 8	10 – 15	18 – 25	25 – 40	50 – 80	90 – 135	160 – 210	250 – 330	450 - 650

Before first use, D&L recommends disassembly and inspection of the tool unless stated otherwise. Ensure parts have not been damaged during shipping. Replace damaged parts with D&L replacement parts. Contact D&L sales for replacement part information.

D & L OIL TOOLS  
P.O. BOX 52220 TULSA, OK 74152  
PHONE: (800) 441-3504 [www.dloiltools.com](http://www.dloiltools.com)



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## C) PRE-INSTALLATION INSPECTION PROCEDURES (cont'd)

Re-assemble the tool after inspection. Install parts in the correct order and orientation. Properly tighten connections.

Before re-using the tool, D&L recommends disassembly and inspection of the tool. Clean parts and ensure parts are in good working condition. Replace worn or damaged parts with D&L replacement parts.

When redressing the tool, D&L recommends replacement of all seals, elements, o-rings, shear screws, etc. Contact D&L sales for redress kit and/or other replacement part information.

## D) STORAGE RECOMMENDATIONS

When preparing the tool for storage, follow the Pre-Installation Inspection Procedures. Re-assemble the tool with connections hand-tight only and in running position if applicable. Elements should be in a relaxed state—free from tension, compression, and other stresses that could cause deformation.

Store the tool, if possible, in an enclosed, temperature and humidity controlled environment. Avoid excessively high temperatures over long periods of time. Shield elastomeric parts from ultraviolet light sources. Keep tool dry and protected from condensation. Do not store in contact with or near volatile or corrosive chemicals. Do not store near ozone generating equipment or operations such as welding.

## E) ELASTOMER TRIM TEMPERATURE GUIDE

RUBBER TYPE	TEMPERATURE RANGE
NITRILE	40° - 250°F
HSN (HNBR)	70° - 300°F
VITON	100° - 350°F

## F) RECOMMENDED HAND TOOLS

- VISE
- GLOVES
- ALLEN WRENCHES
- TAPE MEASURE
- O-RING PICK
- BAR
  - 1/2-INCH
  - 3/4-INCH
- PAINT BRUSH, 2-INCH
- PIPE WRENCH, 3-FT (2 EA)
- “CHEATER” PIPE, 4-FT LONG
- ADJUSTABLE WRENCH, 12-INCH
- CORDLESS DRILL, 18V
- SNAP RING SPREADER PLIERS
- ALIGNING PUNCH
- SCREWDRIVER SET, FLAT-TIPPED
- SOCKET SETS
  - 3/8-INCH DRIVE
  - 1/2-INCH DRIVE
- HAMMERS
  - SLEDGE
  - BALL PEEN
  - DEAD BLOW



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### G) DISASSEMBLY

G-1) Clamp cylinder (2) in vise.

G-1.1) Unscrew and remove set screws (6) from upper end of cylinder (2).

G-1.2) Unscrew and remove top sub (1) from cylinder (2).

G-1.2.1) Remove o-ring (8) from top sub (1).

G-1.3) Unscrew set screws (7) from lower end of cylinder (2).

G-1.4) Unscrew cylinder cap (5) from cylinder (2).

G-1.5) Remove mandrel (3) from cylinder (2).

G-2) Unclamp and remove cylinder (2) from vise. Clamp lower end of mandrel (3) in vise.

**CAUTION<sub>2</sub>**: Do not clamp on seal surface.

G-2.1) Unscrew and remove seal sub (4) from mandrel (3).

G-2.2) Remove o-rings (8) from seal sub (4).

G-2.3) Remove cylinder cap (5) from mandrel (3).

G-3) Unclamp and remove mandrel (3) from vise.

### H) ASSEMBLY

**NOTE<sub>1</sub>**: Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order, and orientation and tighten/torque all connections properly.

**CAUTION<sub>4</sub>**: To ensure tool operates properly, install o-rings in o-ring grooves, **NOT** thread reliefs unless stated otherwise (Fig. 2).

H-1) Clamp lower end of mandrel (3) in vise.

**CAUTION<sub>2</sub>**: Do not clamp on seal surface.

H-1.1) Loosely install cylinder cap (5) onto mandrel (3).

H-1.2) Install o-rings (8) in o-ring grooves in seal sub (4).

H-1.3) Screw seal sub (4) onto mandrel (3)

H-2) Unclamp and remove mandrel (3) from vise. Clamp cylinder (2) in vise.

H-2.1) Install mandrel (3) into cylinder (2).

**CAUTION<sub>3</sub>**: Do not rip or tear o-rings during installation.

H-2.2) Screw cylinder cap (5) into cylinder (2).

H-2.3) Screw set screws (7) into cylinder (2).

H-2.4) Install o-ring (8) in groove in top sub (1).

H-2.5) Screw top sub (1) into cylinder (2).

**CAUTION<sub>3</sub>**: Do not rip or tear o-ring during installation.

H-2.6) Screw set screws (6) into cylinder (2).

H-3) Unclamp cylinder (2) and remove assembled tool from vise.

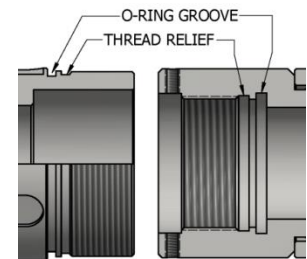


Fig. 2



# EXPANSION JOINT

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### I) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 53420-48
1	1	TOP SUB	DLMS60	53820101
2	1	CYLINDER	DLMS80	53420104-48
3	1	MANDREL	DLMS80	53420113-48
4	1	SEAL SUB	DLMS80	53820105
5	1	CYLINDER CAP	DLMS60	53420102
6	2	5/16-18 UNC X 5/16 SOCKET SET SCREW	STEEL	SSS031C031
7	3	1/4-20 UNC X 1/4 SOCKET SET SCREW	STEEL	SSS025C025
8	3	229 O-RING	90 DURO NITRILE	90229

REDRESS KIT (RDK)		53420050
ASSEMBLED WEIGHT		79 LBS

#### I-1) ELASTOMER TRIM OPTIONS

**NOTE2:** For temperature range, refer to Elastomer Trim Temperature Guide.

##### I-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 53420H-48
8	3	229 O-RING	90 DURO HSN	90229H

REDRESS KIT (RDK)		53420050H
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##### I-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 53420V-48
8	3	229 O-RING	90 DURO VITON	90229V

REDRESS KIT (RDK)		53420050V
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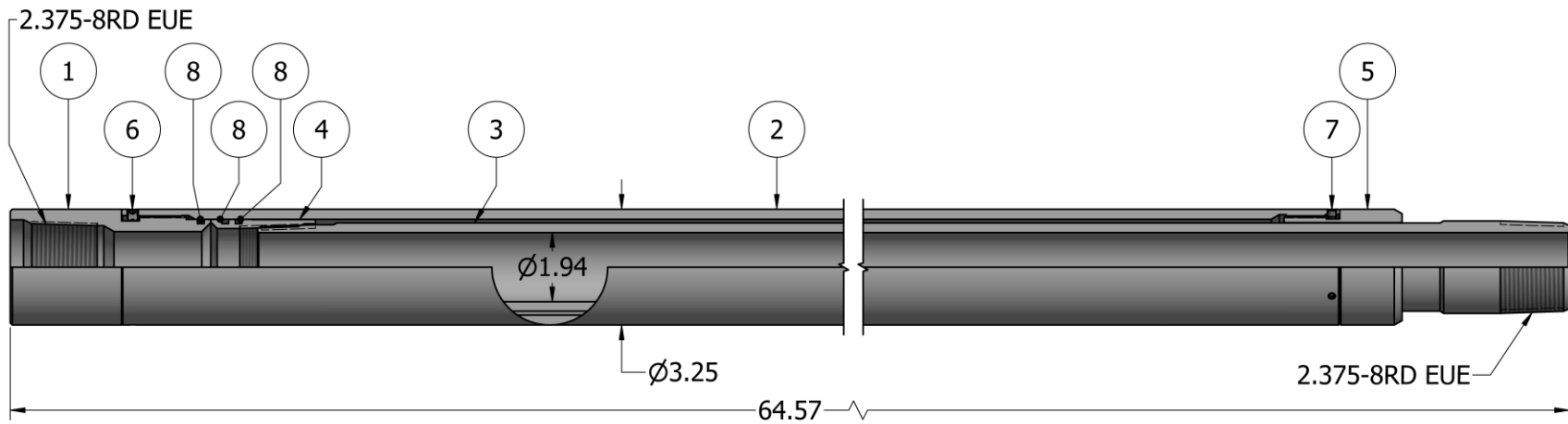
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## J) TECHNICAL ILLUSTRATION



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**K) REVISION HISTORY**

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
06/08/2022	A	Created manual	-	-